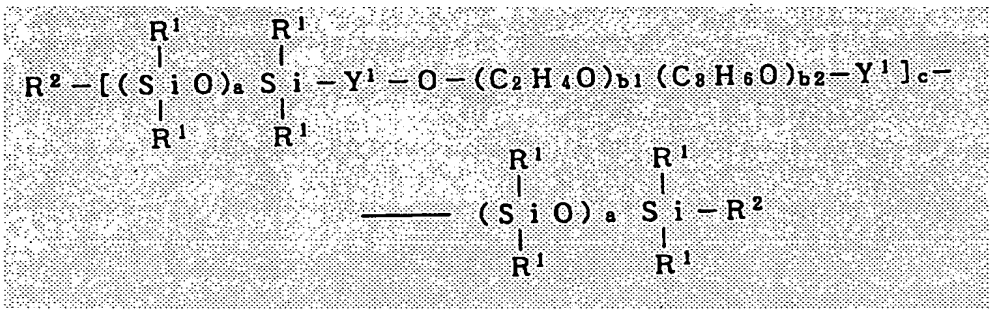
CLAIMS

[1] A composition for hair comprising a block copolymer (A) represented by the following general formula (1):

General formula (1)



[wherein R^1 independently designates univalent hydrocarbon groups free of aliphatic unsaturation, hydroxyl groups, or alkoxy groups;

Y^1 designates a bivalent organic group;

R^2 independently designates hydrogen atoms, hydroxyl groups, substituted or unsubstituted univalent hydrocarbon groups, alkoxy groups, or groups represented by the following formula:

$-Y^1 - O - (C_2H_4)_{b1} (C_3H_6O)_{b2} -Y^2$

(wherein Y^2 is a hydrogen atom or a substituted or unsubstituted univalent hydrocarbon group);

"a" is 1 or a greater integer;

"b1" is 1 or a greater integer;

"b2" is 0, 1 or a greater integer;

"c" is 1 or a greater integer;

the average molecular weight of the polyorganosiloxane block (A) represented by formula:

$-(SiR^1_2O)_a SiR^1_2 -$

is equal to or exceed 10,500;

the aforementioned polyorganosiloxane block constitutes 50 to 99 mass % of block copolymer (A);

the average molecular weight of the polyoxyalkylene block represented by formula:

$-(C_2H_4O)_{b1} (C_3H_6O)_{b2} -$

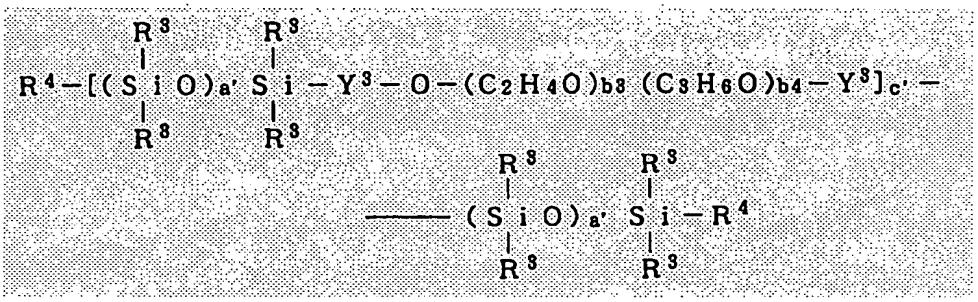
is within the range of 130 to 10,000; and

the average molecular weight of aforementioned block copolymer (A) is equal to or higher than 50,000].

[2] The composition of Claim 1, wherein the content of aforementioned block copolymer (A) is within the range of 0.01 to 10 mass %.

[3] The composition of Claim 1, further comprising a block copolymer (B) of at least one type represented by general formula (2) given below with the content within the range of 0.01 to 10 mass % (per total weight of the composition as a reference):

General formula (2)



[wherein R^3 independently designates substituted or unsubstituted univalent hydrocarbon groups or groups of the following formula:

$-Y^3 - O - (C_2H_4)_{b3} (C_3H_6O)_{b4} - Y^4$

(wherein Y^3, b3, and b4 are defined below, Y^4 designates hydrogen atoms or a substituted or unsubstituted univalent hydrocarbon group);

Y^3 designates a bivalent organic group;

R^4 independently designates hydrogen atoms, hydroxyl groups, substituted or unsubstituted univalent hydrocarbon groups, alkoxy groups, or groups represented by the following formula:

$-Y^3 - O - (C_2H_4)_{b3} (C_3H_6O)_{b4} - Y$;

"a' " is an integer within the range of 1 to 1350;

"b3" and "b4 " are, respectively, integers within the range of 0 to 220 (but b3 and b4 cannot be both 0);

"c' " is an integer within the range of 0 to 50; when c' is 0, at least one of the groups designated by R^3 or R^4 is represented by the formula:

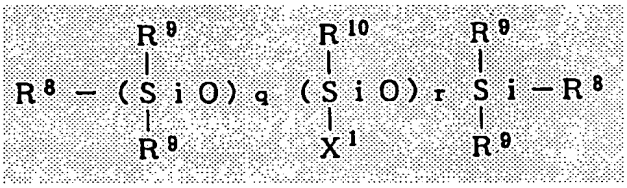
$-Y^3 - O - (C_2H_4)_{b3} (C_3H_6O)_{b4} - Y^4$;

the average molecular weight of the polyorganosiloxane block represented by formula:

$- (SiR^3_2O)_{a'} SiR^3_2 -$

is within the range of 134 to 10,000;
the aforementioned polyorganosiloxane block constitutes 0.7 to 97.5 mass % of block copolymer (B);
the average molecular weight of the polyoxyalkylene block represented by formula:
$-(C_2H_4O)_{b3}(C_3H_6O)_{b4}-$
is within the range of 130 to 10,000; and
the average molecular weight of aforementioned block copolymer (B) is within the range of 650 to 100,000].

[4] The composition of Claim 1, further comprising a silicone compound (C) of at least one type expressed by below-given general formula (3) that is contained in an amount of 0.01 to 10 mass % (per total weight of the composition as a reference).
General formula (3)

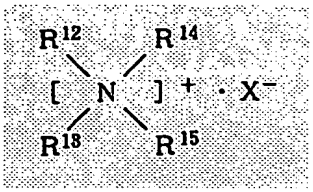


[In the above formula, R^9 independently designates hydrogen atoms and substituted or unsubstituted univalent hydrocarbon groups; X^1 designates a reactive functional group represented by formula:
$-R^{11}-Z^1$
(where R^{11} is a direct bond or a bivalent hydrocarbon group with 1 to 20 carbon atoms, and Z^1 is a group that contains a reactive group); R^8 are independently hydrogen atoms, hydroxyl groups, substituted or unsubstituted univalent hydrocarbon groups, alkoxy groups, or groups represented by X^1; R^{10} represents either R^9 or X^1; "q" is an integer that may be at least 1; "r" is 0 or an integer that may be at least 1 the average molecular weight of component (C) is within the range of 250 to 1,000,000.]

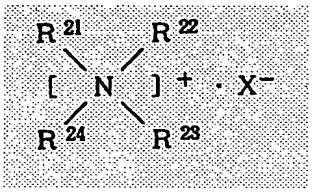
[5] The composition of Claim 4, wherein in above-given formula (3) for silicone compound (C), Z^1 designates an amino-containing group or an ammonium-containing group; when r = 0, and at least one R^8 is X^1.

[6] The composition of Claim 1, further comprising a cationic surface-active agent (D) of at least one type comprising any of the compounds represented by the below-given general formulae (4), (5), and (6):

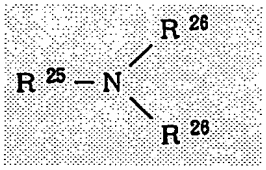
General formula (4)



General formula (5)



General formula (6)



[where in general formula (4), R^{12} designates an alkyl group with 10 to 24 carbon atoms, hydroxyalkyl groups, acyloxyalkyl groups bonded to alkyl groups with 10 to 24 carbon atoms, or amidoalkyl groups; R^{14} and R^{15} independently designates benzyl groups, hydroxyalkyl groups, or alkyl groups having 1 to 3 carbon atoms; R^{13} may be R^{12}, R^{14}, or R^{15}; and X designates a halogen atom or an alkyl sulfuric acid group;

where in general formula (5), at least one of R^{21}, R^{22}, R^{23}, and R^{24} designates an aliphatic acryloxy (polyethoxy) ethyl group, alkenyl group, and a linear or branched alkyl group that contain 8 to 35 of total carbon atoms and can be OH-substituted or fissured by functional groups of the following formulae: - O -, - CONH -, - OCO -, or - COO -. The remaining groups may comprise hydroxyalkyl or alkyl groups with 1 to 5 carbon atoms, or polyoxyethylene groups with the total addition number not exceeding 10. X^- designates a halogen ion or an organic anion; and

where in general formula (6), R^{25} designates an alkenyl group and a linear or branched alkyl group that contain 8 to 35 of total carbon atoms and can be OH-substituted or cleaved by functional groups of the following formulae: - O - , - CONH -, - OCO -, or - COO -.

R^{26} independently designates a hydroxyalkyl group, alkenyl group, or alkyl group with 1 to 22 carbon atoms.]

[7] The composition of Claim 1, further comprising a surface-active agent (E) of at least one type selected from an anionic surface-active agent, amphoteric surface-active agent, and nonionic surface-active agent, said agent being used in an amount of 0.01 to 40 mass % (per total weight of the composition as a reference).

[8] The composition of Claim 1, further comprising a water-soluble polymer (F) of at least one type added in an amount of 0.01 to 10 mass % (per total weight of the composition as a reference).

[9] The composition of Claim 1, wherein said block copolymer (A) is dissolved in a liquid cyclic silicone (G).

[10] The composition of Claim 1, wherein said block copolymer (A) is dissolved in a liquid chain silicone (H).

[11] The composition of Claim 1, wherein said block copolymer (A) is dissolved in a liquid isoparaffin-type hydrocarbon (I).

[12] The composition of Claim 1, wherein said block copolymer (A) is dissolved in a liquid or hard ester oil (J).

[13] The composition of Claim 1, comprising an emulsion type composition obtained by emulsifying a solution formed by dissolving said block copolymer (A).

[14] The composition of Claim 1 that, in case of emulsification, has the emulsion further compounded with 0.01 to 10 mass % (per total mass of the composition as a reference) of a water-soluble polyhydric alcohol (K).